

Appln. No. 10/726,760
Amendment dated December 7, 2006
Reply to Office Action dated June 7, 2006

Remarks/Arguments

The foregoing amendments and these remarks are in response to the Office Action, dated June 7, 2006. At the time of the Office Action, claims 1 and 3-20 were pending in the present application. Claim 1 was objected to because of grammatical errors. Claim 1 was rejected under 35 U.S.C. § 112. Claims 1, 3, 6-10 and 15-18 were rejected under 35 U.S.C. § 103. Claims 19 and 20 were indicated as being allowed. Claims 4, 5 and 11-12 were indicated as being directed to allowable subject matter. Each of the objections and rejections will be addressed in turn below.

Claim Objections

With respect to claim 1, the Office Action noted that the word "a" before "exhaust manifold piece (4)" at line 4 should be replaced by "an" to correct a grammatical error. In light of the amendments to claim 1, Applicant respectfully submits that the objection is moot.

35 U.S.C. § 112

Claim 1 was rejected under 35 U.S.C. § 112, ¶ 2 because the phrase "an exhaust gas manifold" in claim 1, line 5 was noted as being a double recitation. Applicant believes that claim 1 was clear and that the recitation of "an exhaust gas manifold" at line 5 was not a double recitation. Nonetheless, Applicant has reworded the exhaust gas manifold clause of claim 1 to resolve the issue. It is respectfully submitted that claim 1, as amended, overcomes the rejection under 35 U.S.C. § 112.

35 U.S.C. 103

Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,689,952 ("Arthur") in view of U.S. Patent No. 3,068,638 ("Birmann") and further in view

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of German Patent No. DE 100 22 052 A1 ("Manfred") and U.S. Patent Pub. No. US 2004/0142152 A1 ("Chen").

Applicant does not believe that this combination of references is proper or even teaches each and every element of claim 1. Nonetheless, in order to advance the prosecution of this application, Applicants have amended claim 1 to incorporate the recitation of claim 3 that the thermal connection is at least partially realized by a sliding connection. Therefore, the rejection of claim 1 based on the combination of Arthur, Birmann, Manfred and Chen is moot. However, claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Arthur, Birmann, Manfred, Chen and further in view of U.S. Patent No. 4,192,122 ("Stratton"). Applicant will address this rejection.

As an initial matter, it is respectfully submitted that that combination of Arthur, Birmann, Manfred, Chen and Stratton is not proper. First, there is no teaching, suggestion or motivation in any of the references to support the combination, nor has the Office Action pointed to any. For example, the Office Action summarily says that Birmann teaches that it is known to use a portion of the branch pipe extending into at least a portion of the turbine housing and that it would have been obvious to use this feature. It is respectfully submitted that there is no teaching or suggestion in Birmann of the desirability of the feature of a branch pipe extending into at least a portion of the turbine housing. Applicants respectfully wish to point out that the Office Action does not give any reason for combining the feature of Birmann with the other references. Thus, it is not proper to combine Birmann with the other four references.

Second, some of the references teach away from being the combination. For example, the Office Action states that Birmann "teaches that it is conventional in the turbocharged internal

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combustion engine art, to utilize a portion of the branch pipe (114) extending into at least a portion of the turbocharger housing (18')." Even if true, the Birmann system is completely different from the systems shown in the Arthur, Manfred and Stratton references, which all disclose flanged connection between the manifold and housing. None of these references mention a problem with this flanged arrangement that would lead one skilled in the art to change it, nor does Birmann teach any desirability of the arrangement that the Office Action attributes to it. Therefore, there is no reason to combine Birmann with the other four references.

Third, one skilled in the art would not look to the Chen reference because it is from a different field of endeavor. Chen relates to heat shields for vehicular engine components. It does not concern a turbochargers and exhaust gas manifold system. One skilled in the art of turbocharger/exhaust manifold systems would not look to the art of heat shields for the idea of making the turbocharger and at least the branch pipe of an exhaust gas manifold out of sheet metal. Therefore, Chen cannot be used as a basis for the rejection.

Fourth, Applicant notes that the Office Action relies on five references to support the rejection. This large number of references is telling. In its articulation of the rejection, the Office Action merely picks and chooses certain features from these references to result in the combination. It is respectfully submitted that that such a selective amalgamation of features to arrive at the invention recited in claim 1 can only be achieved using hindsight with the benefit of the present application.

Therefore, for all of the reasons set forth above, it is respectfully submitted that the Arthur, Birmann, Manfred, Chen and Stratton references cannot be properly combined.

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However, assuming for the sake of argument that Arthur, Birmann, Manfred, Chen and Stratton are properly combinable, the combination does not teach each and every element of claim 1, as amended.

For example, claim 1 requires that the exhaust gas manifold pieces are in thermal connection with the turbine housing and that the thermal connection is at least partially realized by a sliding connection. The Office Action relies on Stratton to supply this feature. The Office Action notes, "Stratton teaches that is its conventional in the insulated exhaust manifold art, to utilize at least partially realized by a sliding connection (See Figures 1-3, Column 2, lines 56-68, and Column 3, lines 1-6)." It is respectfully submitted that the cited portions of Stratton do not support the rejection.

Stratton does not teach a sliding connection between a turbine housing and exhaust gas manifold pieces. Rather, in the very portion cited by the Office Action, Stratton teaches an inner exhaust conduit 24 of a manifold 10 that is comprised of a plurality of individual sections 32, 34, 36 with one end portion 38. There are slip joints between these sections of the manifold. However, it cannot be said that the cited portion of Stratton discloses a sliding connection between exhaust gas manifold pieces and a turbine housing.

Further, the only connection between the Stratton manifold 10 and another component is shown in Figure 2. As can be seen, the manifold 10 is connected to the adjacent component by flanges 50 and 64. This is not a sliding connection. Moreover, as noted in the background section of the present invention, the present invention avoids the use of such flanges, the elimination of which can provide the significant advantages of: weight reduction, easier

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mounting, no flange sealing, and reduction in the number of welding seams. These advantages could not be attained with the Stratton system.

In addition, claim 1 recites that the turbine housing and at least the branch pipe for the connection with the exhaust gas manifold piece are made of sheet metal. The Office Action relies on Chen for this teaching. However, it is respectfully submitted that Chen does not teach "to utilize the manifold piece and an exhaust gas elbow pipe being made of sheet metal." Chen is directed to an insulated heat shield for vehicular engine components, including exhaust manifolds. The disclosure of Chen is directed to the heat shield itself. While the layers of the Chen heat shield can be made of sheet metal, Chen does not speak to the material of the exhaust gas manifold itself. In fact, none of the underlying support (Figures 1-3 and paragraph [0024]) relied on by the Office Action supports its position. Figures 1-3 are silent. Further, paragraph 24, at most, supports the notion that some layers of a heat shield can be made out of sheet metal. There is no support to apply this to a turbine housing or an exhaust gas manifold. Further, the use of sheet metal is not an arbitrary design choice; rather, it provides certain benefits, as recognized in the present application. Therefore, the Chen reference fails to disclose the feature of a turbine housing and the exhaust gas manifold pieces being made of sheet metal, as recited in claim 1.

It is respectfully submitted that the rejection of claim 1, as amended, based on the combination of Arthur, Birrmann, Manfred, Chen and Stratton has been overcome. At a minimum, the combination fails to teach the feature of a thermal connection between the exhaust gas manifold pieces and the turbine housing that is at least partially realized by a sliding

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connection, as well as the feature of a turbine housing and the exhaust gas manifold pieces being made of sheet metal.

Dependent Claims

Because they depend from claim 1, claims 4-18 are necessarily distinguishable over the cited art for at least the reasons set forth in connection with claim 1 above.

The Office Action indicates that claims 13 and 14 were not examined on their merits because they depend from cancelled claim 2. Claim 13 has been amended so that it now depends from claim 1; claim 14 still depends from claim 13. It is respectfully submitted that these claims are in condition for consideration and allowance.

Allowable Claims

Applicant notes with appreciation the indication that claims 4, 5, 11 and 12 are directed to allowable subject matter and would be allowable if rewritten in independent form. Applicant respectfully submits that such rewriting is unnecessary because each of these claims depend from claim 1, which, as explained above, distinguishes over the cited art.

Allowed Claims

Applicant notes with appreciation the Examiner's allowance of claims 19 and 20.

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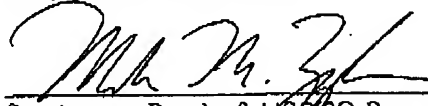
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Conclusion

In light of the foregoing, Applicant respectfully submits that the rejections set forth in the Office Action have been overcome. Applicant respectfully requests reconsideration of pending claims 1 and 4-20, withdrawal of the rejections and objections, and allowance of the pending claims. A notice to that effect is respectfully requested.

Respectfully submitted,

Date: 12/7/2006


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